

CLAIMS

1. A rotating passage feed (1) for connecting, on one side, pressure means conduits (17) arranged in a shaft (3) and, on the other side, pressure means connections (6), through which fluid pressure means are guided, the pressure means conduits and the pressure means connections rotating relative to each other, comprising:

- a shaft (3),
- at least one pressure means conduit (17) comprising a channel extending axially within the shaft (3),
- a radial bore hole (22) for each of the pressure means conduits (17) extending from a surface of the shaft (3) to the pressure means conduit (17), wherein the bore holes (22) of the different pressure means conduits (17) are offset relative to each other in an axial direction,
- a connecting part (5), which surrounds the shaft (3) in a region of the bore holes (22), wherein the connecting part (5) comprises a ring groove (8) in a region of each of the bore holes (22), which completely covers a respective one of the bore holes (22), so that a ring channel (8) is produced together with the shaft (3),
- a pressure means connection (6) for each of the pressure means conduits (17), which is in pressure-tight connection with one of the ring channels (8) and supplies the respective channel with pressure means, and
- sealing rings (25), which seal the ring channels (8) from each other,

characterized in that

- a central sleeve (9) is attached between the connecting part (5) and the shaft (3), the central sleeve is connected in a pressure-tight and non-rotatable manner to the connecting part (5) and has first cylindrical ring sections (18), having an outer surface provided with ring-shaped openings (12) spaced regularly in a peripheral direction, the openings (12) are covered completely by the ring grooves of the connecting part, the first cylindrical ring sections (18) are separated in the axial direction from each other by second cylindrical ring sections (19), which have no openings,

- the radial bore holes (22) are formed as elongated holes and have a length which is selected so that in each position of the shaft (3) relative to the central sleeve (9) at least one opening (12) is completely aligned with the radial bore hole (22), and
- 5 – the sealing rings (25) are attached in recesses in the shaft (3) and interact with the second cylindrical ring sections (19) of the central sleeve (9).

10 2. The rotating passage feed (1) according to claim 1, characterized in that the connecting part (5) comprises one or more sleeves, which are produced from sheet metal parts through a shaping process.

15 3. The rotating passage feed (1) according to claim 1, characterized in that the central sleeve (9) is produced from a sheet metal part through a shaping process and the openings (12) are stamped out of the part after shaping.

20 4. The rotating passage feed (1) according to claim 1, characterized in that the connecting part (5) comprises a first angle sleeve (7) for each of the pressure means connections (6), wherein a wall of the first angle sleeve (7) has a U shape in cross section and forms the ring groove.

25 5. The rotating passage feed (1) according to claim 1, characterized in that the connecting part (5) comprises an outer sleeve (28) and several third angle sleeves (27), wherein the third angle sleeves (27) are attached onto the central sleeve (9) between the first cylindrical sections (18), the third angle sleeves (27) are covered by the outer sleeve (28), and the connections between the outer sleeve (28) and
30 the central sleeve (9), between the outer sleeve (28) and the third angle sleeves (27), and between the third angle sleeves (27) and the central sleeve (9) are pressure-tight.

35 6. The rotating passage feed (1) according to claim 5, characterized in that the third angle sleeves (27) are attached onto the central sleeve (9) by a press fit.

7. The rotating passage feed (1) according to claim 5, characterized in that the wall of the third angle sleeves (27) has a U shape in a longitudinal section.

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8. The rotating passage feed (1) according to claim 6, characterized in that the third angle sleeves (27) are each provided with a sealing ring (33), whereby a sealing connection between the third angle sleeve (27) and the central sleeve (9) or the outer sleeve (28) is produced.

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9. The rotating passage feed (1) according to claim 5, characterized in that the outer sleeve (28) is connected to the central sleeve in a pressure-tight manner at axial ends thereof through ring-shaped weld connections (31).

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10. The rotating passage feed (1) according to claim 5, characterized in that the third angle sleeves (27) are each connected to the outer sleeve (28) by a respective ring-shaped weld seam.

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11. The rotating passage feed according to claim 5, characterized in that the third angle sleeves (27) are each connected to the central sleeve (9) by a respective ring-shaped weld seam (32).

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12. The rotating passage feed (1) according to claim 1, characterized in that additional elongated holes (21), which extend in a peripheral direction and which are each covered by an additional ring channel (8), are provided in the outer surface of the central sleeve (9).